

Decision Notice and Finding of No Significant Impact

INVASIVE SPECIES MANAGEMENT

USDA Forest Service
Shawnee National Forest, Illinois
May 2011

Decision and Reasons for the Decision

This discussion of my decision and finding of no significant impact related to the implementation of the proposed action incorporates by reference the Environmental Assessment of Invasive Species Management.

Background

The purpose and need for this project is to protect and restore native ecosystems on the Shawnee National Forest (Forest) by utilizing a variety of tools for the control or elimination of populations of native and non-native invasive plants. Forest-wide action is needed at this time because:

- invasive species are jeopardizing the survival of some ecological communities,
- invasive species are increasingly degrading native plant communities,
- established invasive species populations serve as a source for spreading infestations,
- taking action now averts the creation of a more widespread and costly future problem,
- existing invasive species populations can spread to adjacent lands,
- past control efforts in small areas using mostly manual methods have been only marginally effective in stopping the establishment/spread of invasive species populations,
- invasive species populations persist and continue to spread, pointing to the need for a comprehensive and integrated approach to treatment, and
- prevention of the establishment of new infestations is more effective than trying to control and eradicate entrenched infestations.

Action is needed to put in effect the guidance in the Forest's 2006 Land and Resource Management Plan (Plan):

The risk of damage from existing non-native invasive species should be reduced through integrated pest-management. Invasion-prevention measures should be implemented to maintain native ecosystems. Existing populations of non-native invasive species should be eradicated, controlled and/or reduced. Effects of management activities on the invasion and spread of non-native invasive species should be considered and mitigated, if needed. Natural areas and lands adjacent to natural areas have the highest priority for the prevention and control of non-native invasive species (FW34.2.1 [G], page 47.)

Invasive species problem: Monitoring and field studies document that the Forest has numerous and abundant populations of invasive plant species that pose an increasingly serious threat to plant and animal community health and diversity (EA page 3). Non-native invasive plant species, displaced from their original ranges, often lack natural controls like disease, predators, parasites, or climate. They tend to out-compete and eventually replace native species. Not only do non-native invasive species compete with natives for resources, they can cause the loss of habitat and food for wildlife, alter soil structure and chemistry, modify fire regimes, alter plant succession, hybridize with natives to compromise local genetic diversity, and replace and possibly lead to the local extirpation of native plant species, including threatened, endangered and sensitive species.

Our employment of integrated pest-management principles—Setting Action Thresholds, Identifying and Monitoring Pests, Prevention, and Control—for the prevention/eradication of invasive species has lacked all the tools available for responsible control. Prevention measures have been inadequate to stop the spread of the most invasive species. We have used mechanical and manual control methods with minimal success overall. As we continue to monitor and observe many areas of the Forest infested and overcome by invasives and recognize the potential loss of biodiversity caused by their establishment—as well as the danger that some rare plant species and unique habitats will be irretrievably lost—we know the “action threshold” has been crossed.

Designated natural areas: Recognizing the value of their unique ecological features, the Forest Plan protects 80 sites on the Illinois Natural Areas Inventory as “natural areas” (Plan Appendix D). Under the Plan’s Natural Area management prescription (Plan pages 76-78), these areas are to be managed for the protection and perpetuation of their significant and exceptional features, which are mainly ecological in nature, with unique plant and/or animal communities and habitats. Invasive species can have impacts in unique habitats such as barrens and seep-springs. Invasive trees, shrubs and vines thrive in areas where they could be kept in check by fire. They can take up space that would be used by other native species and even cause springs to go dry by de-watering the fragile ecosystems. Most of these natural areas have not been actively managed in ten years or more, leading to the general degradation of their natural communities. Invasive plant species are encroaching on them and many limestone and sandstone barrens are reverting to forested conditions. These communities require active management at this time to maintain their integrity and Forest-wide plant and animal community diversity.

The environmental assessment documents the analysis of three alternatives to meet the need described above.

Decision

Based upon my review of the alternatives, I have decided to implement Alternative 2, which proposes the treatment of invasive plant infestations using an integrated combination of prescribed fire and manual, mechanical and/or chemical methods. Under this alternative, we would continue to use public information and education to increase awareness of invasive species issues. We would treat invasive plants on National Forest System lands specified in the environmental assessment and mapped in the project record, given available time and resources. Post-treatment monitoring would be done to evaluate success, which we would document in our annual monitoring reports. The selected alternative provides a four-point approach to invasive plant species management:

1. Forest-wide treatment of all known sites with four highly invasive species: The project interdisciplinary team reviewed the many invasive species found on the Forest and identified four as priorities to be targeted Forest-wide: Amur honeysuckle (*Lonicera maackii*), on about 750 acres at about 40 sites, Chinese yam (*Dioscorea oppositifolia*), on about 1600 acres at about 45 sites, garlic mustard (*Alliaria petiolata*), on about 800 acres on about 70 sites, and kudzu (*Pueraria montana*), on about 75 acres at six sites (see project record for maps of locations). For the most part, these species were chosen based on their high degree of invasiveness and/or their ability to suppress or extirpate native vegetation through their aggressive growth characteristics. Published science, monitoring, and field study indicate that active management of these species can greatly reduce both their current and potential adverse effects on native plants and animals with minimal impact on the surrounding environment. An integrated treatment approach using manual, mechanical and, where appropriate, herbicide treatments is proposed to control and eliminate the four highly invasive species from the sites where they occur.

2. Management of 23 designated natural areas and their treatment zones: The interdisciplinary team reviewed the information on invasive species in natural areas and identified the areas most threatened with vigorous infestations or with the most vulnerable natural communities (EA page 10). Based on these factors, the team selected 23 natural areas with a high priority for treatment, identified in Table 1 and shown on the attached maps. All invasive species would be targeted in these areas, not just those identified for treatment under point one.

Table 1. High-Priority Natural Areas*.			
Name**	Ranger District	Name	Ranger District
Ava ZA	Mississippi Bluffs	Keeling Hill South EA	Hidden Springs
Barker Bluff RNA	Hidden Springs	Kickasola Cemetery EA	Hidden Springs
Bell Smith Springs EA	Hidden Springs	LaRue-Pine Hills RNA	Mississippi Bluffs
Bulge Hole EA	Hidden Springs	Massac Tower Springs EA	Hidden Springs
Cretaceous Hills EA	Hidden Springs	Odum Tract EA	Hidden Springs
Dean Cemetery West EA	Hidden Springs	Panther Hollow RNA	Hidden Springs
Double Branch Hole EA	Hidden Springs	Poco Cemetery East EA	Hidden Springs
Fink Sandstone Barrens EA	Hidden Springs	Poco Cemetery North EA	Hidden Springs
Fountain Bluff GA	Mississippi Bluffs	Reid's Chapel EA	Hidden Springs
Hayes Creek/Fox Den EA	Hidden Springs	Russell Cemetery EA	Hidden Springs
Jackson Hole EA	Hidden Springs	Snow Springs EA	Hidden Springs
Keeling Hill North EA	Hidden Springs		
* None of the natural areas proposed for treatment are located within wilderness.			
** ZA=zoological area, RNA=research natural area, EA=ecological area, GA=geological area, BA=botanical area			

Management would include the application of prescribed fire in the natural areas and the pathways of invasion—along stream corridors, roads and trails (treatment zones), about 12,000 acres. Existing firebreaks, such as roads, trails, streams and other natural features, would be used as firelines where possible; but firelines would be mechanically constructed where necessary. We expect to install about 14 miles of lines by hand and 6 miles mechanically. The treatment zones would be burned at intervals of 1-3 years, depending on fuel availability and the monitoring and assessment of effects to determine the need for additional fire. The fire would help to restore native vegetation and set back the progression of invasive species. Further burns would be done as needed to maintain the areas' ecological integrity once invasive vegetation has been suppressed.

Herbicides could be applied to control invasive species either before or after the initial burns, depending on the target species. Some species, such as grasses, grow well in response to fire and would be targeted before the burns. Other species, such as Japanese honeysuckle and multiflora rose, are generally set back by fire, so burning them off before applying herbicides would limit the amount of herbicide needed for control or eradication. We anticipate applying herbicides every 1-3 years until infestations are controlled or eliminated.

The proposal includes basal-bark treatment (i.e., "hack-and-squirt": cutting into a tree's cambium and applying herbicide) and cutting and stump-spraying and/or girdling of some native trees and shrubs on about 275 acres of barrens, glades and seep-springs to improve growing conditions for natural communities. Similarly, we would control the trees and shrubs that are encroaching on seep-spring areas and dewatering their rare plant communities.

3. Treatment of invasive species within main pathways of infestation: Stream, road, trail and utility rights-of-way corridors are the main invasion pathways for most invasive species (about 53,000 acres; see attached maps). Stream corridors are a dynamic environment, with flooding that exposes bare soil. Similarly, road and trail corridors are heavily used and maintained; they also have exposed soil. All these areas are susceptible to the establishment and growth of invasive

species. Certain species are expected in these invasion corridors and would be targeted (project record), but any invasive species discovered could be treated.

Treatments would be prioritized based on the threats posed by individual species and the potential for successful control. Stream, road and trail corridors extend 100 feet from each side of the respective feature: All mapped perennial and intermittent streams, all roads on the Forest, and all system and mapped non-system trails. While we expect many corridors to be unaffected, invasive species found within them could be treated with prescribed fire and manual, mechanical and chemical methods. Herbicide treatments could be done beyond the 100-foot corridors if needed to control an infestation, but would not exceed 300 feet. Treatment of infestations beyond 300 feet with herbicides or prescribed fire may require new environmental analysis; however, the application of manual or mechanical treatments could be done to control these populations.

4. Rapid response to newly discovered invasive species infestations: The Forest would have the ability to respond rapidly to invasive plant infestations newly discovered outside the areas defined above. While treatments of newly discovered populations with herbicides or prescribed fire would require additional environmental analysis and decision, the application of manual or mechanical treatment methods could be used to reduce the threat of spread.

Herbicide Use

We identified in the environmental assessment five herbicides that we will use to treat invasive species (Table 2). The environmental analysis indicated that these chemicals are effective, relatively non-toxic other than to target plants, and minimally persistent in the environment. We determined that the use of any of these herbicides according to the design criteria specified in the environmental assessment would have no significant adverse impact on the environment.

Issues

As a result of scoping, the interdisciplinary team identified four key issues related to our invasive species management proposal:

1. The application of herbicides may affect humans.
2. The establishment and growth of invasive species may affect natural areas and ecosystems, including plants and wildlife.
3. The application of prescribed fire and mechanical treatments may affect designated natural areas and ecosystems, including soil, water, plants and wildlife.
4. The application of herbicides may affect designated natural areas and ecosystems, including soil, water, plants and wildlife.

Table 2. Proposed Chemical Controls in Alternative 2.				
Chemical Name	Examples of Trade Names	Targeted Use	Examples of invasive plants to be targeted	Risk Assessment
Clopyralid	Curtail™ Reclaim™ Transline™	Foliar spray; broadleaf selective—especially composites and legumes	kudzu, thistles, teasels, mimosa	SERA 2004a
Glyphosate	Accord® Roundup Pro® Roundup®	Stump treatment, foliar spray; non-selective; woody and broadleaf plants	Amur honeysuckle, autumn olive, kudzu, Japanese honeysuckle, garlic mustard, tree-of-heaven	SERA 2003a

Table 2. Proposed Chemical Controls in Alternative 2.				
Chemical Name	Examples of Trade Names	Targeted Use	Examples of invasive plants to be targeted	Risk Assessment
Glyphosate (aquatic)	Aquamaster® Rodeo®	Foliar treatment, weeds near open water, nonselective	purple loosestrife, any species near open water	SERA 2003a
Sethoxydim	Poast® Vantage®	Foliar spray; narrowleaf selective (grasses)	Nepalese browntop, Johnson grass, cheat grass,	SERA 2001
Triclopyr	Crossbow™ Garlon™3A Garlon™4 Habitat®; Pasturegard™ Vine-X®	Stump and/or basal-bark treatment, foliar spot spray; broadleaf selective; woody plants	Amur honeysuckle, autumn olive, kudzu, Japanese honeysuckle, garlic mustard, tree-of-heaven	SERA 2003b
Picloram	Tordon K Tordon 22k; Grazon	Stump and/or basal-bark treatment	kudzu	SERA 2003c
(http://www.fs.fed.us/foresthealth/pesticide/risk.shtml)				

Other Factors Considered

In my decision, I have considered the science, field data and analysis set forth in this environmental assessment, which was tiered to the 2006 Forest Plan programmatic final environmental impact statement and incorporated by reference the programmatic biological assessment and opinion for the Plan. The analysis also incorporated by reference the human health and ecological risk assessments of the herbicides proposed for use. These risk assessments indicate the relative safety of the respective herbicides. I also considered the experience, approach and support of the Illinois Department of Natural Resources (see Forest Plan page 22). Additionally, the Illinois Nature Preserves Commission, the Illinois Invasive Plant Species Council, the River-to-River Cooperative Weed Management Area, and The Nature Conservancy have successfully used the methods we are proposing and endorsed our proposal as necessary and practical for the control of invasive plant species.

I have also considered my own experience as a trained pesticide applicator. I worked as a trained pesticide applicator for several years as a trainee forester with the States of Mississippi and Kentucky and as a silviculture technician with the Forest Service. I have used all of the proposed methods in applying all of the herbicides proposed for use and several others. I have direct experience in the application and monitoring of the effects of these herbicides and have assisted in the testing of application methods and rates of herbicides. Similarly, I have conducted and approved the use of prescribed fire. The methods proposed in this decision are familiar to me and I am confident these actions, when correctly applied, will reduce the impact of invasive species.

Design Criteria

As with the other alternatives, Alternative 2 will allow us to treat invasive infestations with prescribed fire and manual or mechanical methods. The advantage of Alternative 2, however, is that it allows for the integrated use of selected herbicides as necessary to effectively and economically treat invasive plant species. The project interdisciplinary team reviewed published science and developed and compiled comprehensive design criteria that direct and mitigate the actions associated with our proposed methods of invasive species control. All treatments implemented on the Forest would be done according to the specifications of the design criteria. Table 3 displays the design criteria for invasives species management and Table 4 displays the design criteria for human health and safety.

Table 3. Design Criteria for Invasive Species Management.		
Resource Area	Design Criteria	Rationale / Effectiveness
Invasive Plant Treatments	Clean all equipment before entering and leaving project sites.	Minimizes spread of noxious weeds from one site to the next (USDA-FS 2004). Guide to Noxious Weed Prevention Practices (2001).
	Workers should inspect, remove and properly dispose of plant parts found on clothing and equipment before entering or leaving the project area.	
	Minimize soil disturbance to avoid creating favorable conditions that encourage weed establishment.	
	All treatment locations will be marked with global positioning systems and tracked in a database.	
	Known or new occurrences that cross ownership boundaries will be noted and data shared with landowners and other agencies.	Improves effectiveness of control and increases opportunities for treatment on other lands.
Botanical	Ensure that rare plant resources, including state-listed threatened and endangered species, are protected from mechanical or chemical treatments.	Rare plant resources will be protected and habitat enhanced. Known locations of state-listed plant species will be protected.
Wildlife	Retain all standing dead trees unless necessary to cut for human safety or to accomplish project objectives.	These design criteria are required “terms and conditions” or “reasonable and prudent measures” in US Fish and Wildlife Service Biological Opinion for the Forest Plan (Forest Plan, Appendix H, C.1.b. and C.1.c.).
	To reduce the chances of affecting bat maternity roosts and foraging habitats, no prescribed burns shall be done in upland forests from 5/1-9/1.	
	Burning near known timber rattlesnake den locations will be done only during hibernation - 11/1-3/31.	Den sites are extremely important to the maintenance of populations (Forest Plan).
	For protection of nesting migratory birds, burns should be done as early or late in the season as possible, preferably before 4/1 and after 8/1.	For the protection migratory birds (Forest Plan, FW51.1.2.6.
	In order to protect eastern small-footed bats, fires will not be ignited near known-occupied rock outcroppings or cave entrances in the project area. No firelines would be constructed in or immediately adjacent to cave habitat.	This species require additional RFSS protection identified in the Forest Plan (USDA 2006).
	High-intensity prescribed fire should not be applied to known locations of the carinate pill snail in LaRue-Pine Hills Research Natural Area.	This is protection suggested in the conservation assessment for the carinate pill snail (Anderson 2005).
Heritage	The Area of Potential Effects will be reviewed and inventoried as needed to ensure that all heritage resources are adequately protected.	Implementing protocol methods will ensure protection of heritage resources (SHPO/IHPA 2009).
Recreation and Visual	Ensure visitor safety before, during and after burning activities. Burn areas should be closed to the public.	Forest Plan, Chap. I, B; FW23.2 & FW23.3.
	Protect recreational improvements, (campgrounds, trailheads and trail-signing).	Forest Plan, FW23.2
	Damage to trails and roads used as firebreaks or for access should be repaired to standard.	Forest Plan, Chap. FW23.3
Wilderness	Ensure non-motorized NNIS treatments are utilized.	Wilderness Act of 1964, Forest Plan WD19.3
	Avoid treatments during periods with typical high visitor volume (holidays).	Mitigate impacts on solitude.
Soil and Water	Use erosion-control measures, including seeding, for firelines that could erode soil into water resources.	Illinois Forestry Best Management Practices are designed to ensure that prescribed fire does not degrade the forested site and that waters associated with these forests are of the highest quality (IDNR et al. 2000). We have monitored
	Avoid intense burns that remove forest-floor litter and expose excessive bare soil.	

Table 3. Design Criteria for Invasive Species Management.		
Resource Area	Design Criteria	Rationale / Effectiveness
Soil and Water	Maintain soil-stabilization practices until the site is fully revegetated and stabilized.	the effectiveness of mitigation measures on several past prescribed fire projects and found that the measures were effective in minimizing soil erosion and subsequent sedimentation in streams.
	Avoid operating heavy equipment to cause excessive soil displacement, rutting or compaction.	
	Apply guidelines for protection of water quality and riparian areas; guidelines for the reduction of bare-soil disturbance; retain native vegetation and limit soil disturbance as much as possible.	Implementation of the protection measures and management recommendations at Forest Plan FW25 will prevent excessive sedimentation.
	Revegetate soils disturbed by management activities by allowing growth of existing on-site vegetation where possible and desirable or by planting or seeding native vegetation.	Adherence to Forest Plan direction and Illinois Department of natural Resources Best Management Practices regarding protection of aquatic habitats will prevent damage to these areas.
	Fueling or oiling mechanical equipment must be done away from aquatic habitats.	
	When using pesticides in riparian areas and within 100 feet of sinkholes, springs, wetlands and cave openings, adhere to the following: Minimize the use of pesticides, herbicides; use only pesticides labeled for use in or near aquatic systems; and use only herbicides based on analysis that shows they are environmentally sound and the most biologically effective method practicable.	Compliance with herbicide label directions will prevent misuse of chemicals used for treatment of invasive species.
	No triclopyr (ester formulation) or surfactants used with glyphosate (terrestrial version) will be applied within riparian areas or within 100 feet of lakes, ponds, sinkholes or wetlands.	
	Consider prevailing weather conditions and use lower volatility formulations under conditions that might result in a high risk of volatilization.	

Table 4. Design Criteria for Human Health and Safety.
Implementing safe handling and application guidelines will ensure the health and safety of employees and the public will be protected. Job Hazard Analyses (JHA), Material Safety Data Sheets (MSDS) and product labeling will be reviewed and followed in order to ensure the preservation and protection of human health and safety. Applicators will be trained in the safe handling and application of all natural and synthetic herbicides. All requirements in a Safety and Spill Plan will be followed. The following application standards will be rigorously adhered to.
Pre-application <ul style="list-style-type: none"> • Herbicides will be used only when they will provide the most effective control relative to the potential hazards of other proposed management techniques; choose the most effective herbicide requiring the least number of applications. • The use of pesticides must comply with the product label. • All applications will be under the direction of a certified pesticide applicator. • All individuals working with herbicides will review corresponding Material Safety Data Sheets. • Herbicide label directions will be carefully followed. This could include temporary closure of treatment areas in order to prevent or limit public exposure and insure public health and safety. • Weather forecasts will be obtained prior to herbicide treatment. Treatment will be halted or delayed, if necessary, to prevent runoff during heavy rain or high wind. Herbicide will be applied only when wind speeds are less than 10 mph, or according to label direction, to minimize herbicide drift. Appropriate protective gear will be worn by herbicide applicators.
Application <ul style="list-style-type: none"> • Use the lowest pressure, largest droplet size, and largest volume of water permitted by the label to obtain adequate treatment success; use the lowest spray boom and release height possible consistent with operator safety.

Table 4. Design Criteria for Human Health and Safety.	
<ul style="list-style-type: none"> • Apply pesticides during periods of low visitor use when possible; areas treated with pesticides shall be signed, as appropriate, to ensure users are informed of possible exposure. • When using herbicides where runoff may easily enter the water table, (i.e. creeks, rivers, wetlands, caves, sink-holes, or springs), minimize the use of pesticides, herbicides, fertilizers or hazardous materials; use only pesticides labeled for use in or near aquatic systems. 	
Post-Application <ul style="list-style-type: none"> • All herbicides will be stored in approved buildings when not in use. • Herbicides will have Material Safety Data Sheets per Forest Service guidelines. • Washing and rinsing of equipment used in the mixing and application of pesticides will be done in areas where runoff will not reach surface waters, wetlands, fens, sinkholes, or other special habitats. • Rinse water from cleaning or rinsing actions in conjunction with herbicide treatment will be disposed of according to the Federal Insecticide, Fungicide and Rodenticide Act (http://www.purdue.edu/dp/envirosoft/pest/src/container.htm). • Herbicide containers will be stored and disposed of following label specifications. 	

Monitoring

Monitoring would demonstrate whether or not implementation of Alternative 2 and expected outcomes are accomplished (Table 5). If monitoring reveals unacceptable outcomes, appropriate measures would be implemented to correct problems.

Table 5. Monitoring of Alternatives.		
Monitoring Activity	Description	Location and Timing
Soil Resources	Visual inspection for sheet, rill and gully erosion. Inspection of soil disturbance.	Before, during and after project activities are completed in project area.
Invasive Species	Samples of project area would be surveyed to assess invasive species increase/decrease.	Selected locations would be monitored before and after implementation.
	Ensure that invasive species design criteria are implemented.	Selected locations would be monitored during and after implementation.
Rare Plant Resources	Monitor known rare plants to ensure no adverse impacts.	Selected locations would be monitored during and after implementation.
Heritage Resources	Ensure that heritage resources are protected during and after implementation.	This project would be checked annually to assess damage to historic properties.

Legal and Regulatory Compliance

The analysis and implementation of Alternative 2 meet the requirements of the National Environmental Policy Act, the National Forest Management Act, the Endangered Species Act, the Clean Water Act, the Clean Air Act, the National Historic Preservation Act, the Migratory Bird Treaty Act, the Wilderness Act and the Illinois Wilderness Act, and other applicable laws and regulations, executive orders, and Forest Service directives and policies.

Other Alternatives Considered

In addition to the selected alternative, I considered two other alternatives that were analyzed in the environmental assessment. A comparison of these alternatives can be found in the environmental assessment on pages 18-19.

Alternative 1: No Action. Under this alternative, we would continue current strategies of invasive species management: Pulling and torching of about 100 to 150 acres of invasive species, inventory and mapping of infestations, and the burning of about 6,000 acres per year to set back the invasive species, including in some designated natural areas. We apply herbicides in campgrounds and at administrative sites (about 50-100 acres per year), contributing to invasive species control in those areas. No ground-disturbing mechanical treatments could be done, nor could herbicide be applied outside of administrative sites and campgrounds.

Alternative 3: Treatment of Invasive Species without Synthetic Herbicides. Under this alternative, which proposes the same four-point approach as Alternative 2, no synthetic herbicides would be used to treat invasive species. The methods proposed rely on aggressive manual or mechanical treatments as the first course of control. Natural weed-killers would be applied when manual and mechanical methods are ineffective.

Public Involvement

As described in the Background, the need for this action has been identified over the last few years. A proposal to manage invasive species was listed in the Forest's Schedule of Proposed Actions on April 1, 2008 and has appeared in the schedule continuously since then. The proposal was provided to the public and other agencies for comment during scoping on April 29, 2008. In addition, the Forest hosted an informational open-house meeting on September 15, 2010.

Using the comments from the public and other agencies, the interdisciplinary team identified several issues regarding the effects of the proposed action. The main issues of concern included: application of herbicides may affect humans; the establishment and growth of invasive species may affect natural areas and ecosystems, including plants and wildlife; the application of prescribed fire may affect designated natural areas and ecosystems, including soil, water, plants and wildlife; and the application of herbicides may affect designated natural areas and ecosystems, including soil, water, plants and wildlife (environmental assessment, pages 7-8). To address these concerns, the Forest Service created the alternatives described above.

Finding of No Significant Impact

After considering the environmental effects described in the environmental assessment, I have determined that these actions will not have a significant effect on the quality of the human environment, considering the context and intensity of impacts (40 CFR 1508.27). Therefore, an environmental impact statement will not be prepared. I base my finding on the following consideration of context and intensity:

The context here is the limited, focused use of specified methods to address an altered condition of the natural environment—invasive species—in specific areas of the Forest identified in the environmental assessment and on maps included in the project record. The trade-offs between the action and no-action alternatives are stark and clear. This action sets no precedent for any other Forest Service unit, nor does it establish precedent for any other action on the Forest. Future efforts to address invasive species, if any, will be subject to additional site-specific analysis with public participation.

From the outset, we recognized that the effects of invasive species on native plants and animals are a broad, national problem on private, state, and federal lands. The circumstances on the Forest are a microcosm of a national problem. The purpose and need for this action is local and limited in time and scope. We are committed to working with state agencies and local southern Illinois landowners to do what we can at this time with available resources to address the altered condition of the environment, particularly where diversity is threatened, as in natural areas. The context of this proposal is the targeted action on four key invasive species of most importance to this Forest at this time, 23 natural areas, and main pathways of invasive species infestation.

My examination of the intensity of expected impacts focused on the ten intensity factors put forth for consideration by the Council on Environmental Quality:

1. *Impacts that may be both beneficial and adverse. A significant effect may exist even if on balance the effect will be beneficial.*

My finding of no significant environmental effects is not biased by the beneficial effects of the action: The mitigation measures and design criteria incorporated into this project were explicitly created to avoid significant direct, indirect, and cumulative effects on non-target wildlife and plant species, as well as people. The minor beneficial effects associated with the control or elimination of priority invasive species, invasives from natural areas, and invasive species from the main pathways of infestation are documented in the environmental assessment, but were not used to offset adverse effects.

2. *The degree to which the proposed action affects public health or safety.*

My finding of no significant environmental effects is based on the analysis of the proposed project in the environmental assessment. The potential effects of the proposed action on human health was one of the key issues identified by the interdisciplinary team and the team took a hard look at the possible effects on people. The analysis determined there would be no adverse impacts on human health or safety from implementation of the project in compliance with the project design criteria for human health and safety (EA page 17).

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

My finding takes into account all the unique characteristics of the Forest, with particular attention to designated natural areas. One of the main purposes of the proposed action is to protect the unique ecological characteristics of natural areas from the damaging effects of invasive species. I find that the proposed action—the selected alternative—will accomplish the intended purpose of managing or controlling invasive species to the benefit of the natural areas, as well as the health and biodiversity of our forested ecological communities. Additionally, as was determined in the environmental assessment, the activities we plan to implement in accordance with the project design criteria will have no significant adverse effect on our candidate wild and scenic rivers, wetlands, or heritage resources (EA pages 15-16).

4. *The degree to which the effects on the quality of the human environment are likely to be highly controversial.*

My finding relies on the determination in the environmental assessment that implementation of the selected alternative will have no adverse effect, much less a significant effect, on the quality of the human environment. The analysis that led to this determination was informed by human health and ecological risk assessments of the herbicides proposed for use. These risk assessments indicated low toxicity and minimal persistence levels for the proposed herbicides. Although some who commented on the environmental assessment felt that any use of herbicides on the Forest is controversial in and of itself, no evidence was brought to our attention to question or disprove the conclusions of the environmental assessment or the risk assessments. I find no indication of a scientific controversy regarding the use of herbicides or other treatment methods that have been proposed (EA pages 23-40, 42-47).

5. *The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

Based on the discussions and conclusions of the analysis in the environmental assessment, I discern no uncertainty or unique or unknown risks associated with this proposed project. The proposed treatment methods, including the use of herbicides, are commonly and successfully employed in southern Illinois and across the country. The proposed herbicides are of low toxicity and persistence; any risk associated with their use would be minimal. Implementation of the selected alternative in accordance with the project design criteria minimizes the already low risk involved with the proposed activities and will have no significant adverse effect on the environment (EA pages 23-40, 42-47).

6. *The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.*

The proposed action focuses on the use of common mechanical and chemical treatments on clearly defined areas of the Forest. My decision applies only to the areas described in the environmental assessment and associated maps. Any additional future actions regarding the treatment of invasive species would be appropriately analyzed under the National Environmental Policy Act. My decision to implement this proposal is limited to this action and unrelated to future considerations (EA pages 18-19, 23-40, 42-47).

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.*

My finding of no significant impact from implementation of the selected alternative includes consideration of its cumulative impacts in relationship to other activities, whether conducted by the Forest Service or others. All known actions associated with the selected alternative that are likely to occur in the reasonably foreseeable future have been identified and the direct, indirect, and cumulative effects disclosed in the environmental assessment (EA pages 26-27, 35, 39-40, 41-47).

8. *The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources.*

The action will have no adverse effect on districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places because 1) areas to which prescribed fire will be applied are inventoried according to a programmatic agreement among the Forest, the Illinois State Historic Preservation Officer and the Advisory Council on Historic Preservation; 2) Areas to be treated with earth-disturbing activities will be reviewed and inventoried prior to execution of activities; and 3) non-earth-disturbing activities will have no effect on heritage resources (EA pages 46-47). The Office of the State Historic Preservation Officer has been consulted regarding this project and has concurred with our conclusion that its implementation would have no effect on heritage resources.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act of 1973.*

The protection of threatened, endangered and sensitive species was a major consideration during the environmental analysis of the proposed action. My finding of no significant impact relies on the conclusion of the environmental assessment that the project design criteria will be protective. The biological evaluation concluded that Implementation of the proposed project “may affect but (is) not likely to adversely affect” Indiana or gray bats, and would have no effect on any other listed species. In December 2010 the U.S. Fish and Wildlife Service concurred with this conclusion.

10. *Whether the action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

Implementation of the selected alternative will result in no action that threatens to violate federal, state, and local laws or requirements for the protection of the environment. Applicable laws and regulations were considered in the environmental assessment (pages 48-49) and the proposed action is consistent with the Shawnee National Forest Land and Resource Management Plan (EA page 49).

Findings Required by Other Laws and Regulations

This decision is in accordance with the Forest Plan's long term goals and objectives. The project is consistent with Plan standards and guidelines (16 USC 1604(i)). The foundation of this analysis is the compilation and review of published science concerning treatment of invasive plant species. In addition, the Forest contacted other national forests as well as state and non-governmental experts to discuss invasive plant species management. Opposing scientific viewpoints were considered in the development of the analysis, and no scientific information presented to the agency by the public was overlooked or ignored. The best available science was used in the development of this analysis.

Implementation Date

If no appeals are filed within the 45-day time period, implementation of the decision may occur on, but not before, five business days from the close of the appeal filing period. When appeals are filed, implementation may occur on, but not before, the 15th business day following the date of the last appeal disposition.

Administrative Review or Appeal Opportunities

This decision is subject to administrative review (appeal) pursuant to 36 CFR Part 215.11. Written appeals must be filed within 45 days from the publication date of the legal notice of this decision in the *Southern Illinoisan*, the Forest's newspaper of record. Attachments received after the 45-day appeal period will not be considered. The publication date of this notice in the *Southern Illinoisan* is the exclusive means for calculating the time to file an appeal. The day after the publication of the legal notice of the decision is the first day of the appeal-filing period. Those wishing to appeal this decision should not rely upon dates or timeframe information provided by any other source.

Appeals may be submitted by mail to:

USDA Forest Service, Eastern Region
ATTN: Appeals Deciding Officer Regional Forester
626 E. Wisconsin Ave.
Gaslight Building, Suite 700
Milwaukee, WI 53202-4616

Appeals submitted by electronic mail must be submitted in a format such as plain text (.txt), rich text (.rtf), or Word (.doc) to: appeals-eastern-shawnee@fs.fed.us, subject: Shawnee Invasives. Appeals may be sent by fax to: (414) 944-3963, Attn: Appeal Deciding Officer Regional Forester, subject: Shawnee Invasives. Normal office business hours for those submitting hand-delivered appeals are 7:30 am-4:00 pm CDT, Monday through Friday. Individuals or organizations who submitted substantive comments during the comment period specified at 215.6 may appeal this decision. The notice of appeal must meet the appeal content requirements at 36 CFR 215.14.

Contact

For additional information concerning this decision or the Forest Service appeal process, contact Matthew Lechner, Natural Resources Program Manager, Shawnee National Forest, 50 Highway 145 South, Harrisburg, IL 62946; phone (618) 253-1016; email mlechner@fs.fed.us.

/s/ Hurston A. Nicholas

May 4, 2011

HURSTON A. NICHOLAS

Date

Forest Supervisor
Shawnee National Forest